

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A wireless apparatus capable of supporting two types of modulation methods having different multi-value numbers, comprising:

a modulation method switching unit configured to switch, when another wireless apparatus to be in wireless connection with the wireless apparatus is capable of supporting said two types of modulation methods, the modulation method between a first modulation method having a smaller multi-value number and a second modulation method having a larger multi-value number, while the wireless apparatus is communicating with said another wireless apparatus;

a storing unit configured to store a first threshold value of a parameter indicative of communication environment of transmission path, at which the wireless apparatus can communicate with said another wireless apparatus at least by said second modulation method of said two types of modulation methods;

a parameter measuring unit configured to measure said parameter based on a signal received from said another wireless apparatus;

a parameter comparing unit configured to compare, when there is a connection request from said another wireless apparatus to the wireless apparatus, said stored first threshold value of the parameter corresponding to said second modulation method with said measured parameter; and

a channel allocation determining unit configured to permit, when it is determined by said parameter comparing unit that said measured parameter is not lower than said stored first threshold value of the parameter, allocation of a wireless channel to said another wireless apparatus.

2. (Previously Presented) The wireless apparatus according to claim 1, wherein said storing unit stores in advance a second threshold value of a parameter indicative of communication environment of transmission path, at which the wireless apparatus can communicate with another wireless apparatus by said first modulation method; and

when there is a connection request from another wireless apparatus that supports said first modulation method but not said second modulation method to the wireless apparatus, said parameter comparing unit compares said stored second threshold value of the parameter corresponding to said first modulation method with the parameter measured by said parameter measuring unit, and when it is determined by said parameter comparing unit that said measured parameter is not lower than said stored second threshold value of the parameter, said channel allocation determining unit permits allocation of a wireless channel to said another wireless apparatus that supports said first modulation method but not said second modulation method.

3. (Previously Presented) The wireless apparatus according to claim 1, wherein said channel allocation determining unit determines presence/absence of any empty slot and empty channel in the wireless apparatus, and when there is no empty slot or empty channel, rejects allocation of a wireless channel regardless of the result of comparison by said parameter comparing unit.

4. (Previously Presented) The wireless apparatus according to claim 1, further comprising

another wireless apparatus requesting connection to the wireless apparatus about rejection of channel allocation, when said channel allocation determining unit rejects allocation of the wireless channel.

5. (Original) The wireless apparatus according to claim 1, wherein the parameter is based on a reception signal level from another wireless apparatus requesting connection to the wireless apparatus.

6. (Currently Amended) A channel allocation method in a wireless apparatus capable of supporting two types of modulation methods of different multi-value numbers, said wireless apparatus including: a modulation method switching unit configured to switch, when another wireless apparatus to be in wireless connection with the wireless apparatus is capable of supporting said two types of modulation methods, the modulation method between a first modulation method having a smaller multi-value number and a second modulation method having a larger multi-value number, while the wireless apparatus is communicating with said another wireless apparatus; a storing unit configured to store a first threshold value

of a parameter indicative of communication environment of transmission path, at which the wireless apparatus can communicate with said another wireless apparatus at least by the second modulation method of said two types of modulation methods; and a parameter measuring unit configured to measure said parameter based on a signal received from said another wireless apparatus;

said channel allocation method comprising the steps of:

comparing, when there is a connection request from said another wireless apparatus to the wireless apparatus, said stored first threshold value of the parameter corresponding to said second modulation method with the measured parameter; and

permitting, when it is determined that said measured parameter is not lower than said stored first threshold of the parameter, allocation of a wireless channel to said another wireless apparatus.

7. (Previously Presented) The channel allocation method according to claim 6, wherein

said storing unit stores in advance a second threshold value of a parameter indicative of communication environment of transmission path, at which the wireless apparatus can communicate with another wireless apparatus by the first modulation method; said method further comprising the steps of:

comparing, when there is a connection request from another wireless apparatus that supports said first modulation method but not said second modulation method to the wireless apparatus, said stored second threshold value of the parameter corresponding to said first modulation method with said parameter measured by the parameter measuring unit; and

permitting, when it is determined that said measured parameter is not lower than said stored second threshold value of the parameter, allocation of a wireless channel to said another wireless apparatus that supports said first modulation method but not said second modulation method.

8. (Original) The channel allocation method according to claim 6, further comprising the step of

determining presence/absence of any empty slot and empty channel in the wireless apparatus, and when there is no empty slot or empty channel, rejecting allocation of a wireless channel regardless of the result of comparison in said parameter comparing step.

9. (Original) The channel allocation method according to claim 6, further comprising the step of

notifying another wireless apparatus requesting connection to the wireless apparatus about rejection of channel allocation, when allocation of a wireless channel is rejected.

10. (Original) The channel allocation method according to claim 6, wherein said parameter is based on a reception signal level from another wireless apparatus requesting connection to the wireless apparatus.

11. (Currently Amended) A channel allocation program in a wireless apparatus capable of supporting two types of modulation methods of different multi-value numbers, said wireless apparatus including: a modulation method switching unit configured to switch, when another wireless apparatus to be in wireless connection with the wireless apparatus is capable of supporting said two types of modulation methods, the modulation method between a first modulation method having a smaller multi-value number and a second modulation method having a larger multi-value number, while the wireless apparatus is communicating with said another wireless apparatus; a storing unit configured to store a first threshold value of a parameter indicative of communication environment of transmission path, at which the wireless apparatus can communicate with said another wireless apparatus at least by the second modulation method of said two types of modulation methods; and a parameter measuring unit configured to measure said parameter based on a signal received from said another wireless apparatus;

said channel allocation program being stored on computer readable medium and causing a computer to execute the steps of:

comparing, when there is a connection request from said another wireless apparatus to the wireless apparatus, said stored first threshold value of the parameter corresponding to said second modulation method with the measured parameter; and

permitting, when it is determined that said measured parameter is not lower than said stored first threshold of the parameter, allocation of a wireless channel to said another wireless apparatus.

12. (Previously Presented) The channel allocation program according to claim 11, wherein

said storing unit stores in advance a second threshold value of a parameter indicative of communication environment of transmission path, at which the wireless apparatus can communicate with another wireless apparatus by the first modulation method;

said channel allocation program causes the computer to further execute the steps of:

comparing, when there is a connection request from another wireless apparatus that supports said first modulation method but not said second modulation method to the wireless apparatus, said stored second threshold value of the parameter corresponding to said first modulation method with said parameter measured by the parameter measuring unit; and

permitting, when it is determined that said measured parameter is not lower than said stored second threshold value of the parameter, allocation of a wireless channel to said another wireless apparatus that supports said first modulation method but not said second modulation method.

13. (Original) The channel allocation program according to claim 11, causing the computer to further execute the step of

determining presence/absence of any empty slot and empty channel in the wireless apparatus, and when there is no empty slot or empty channel, rejecting allocation of a wireless channel regardless of the result of comparison in said parameter comparing step.

14. (Original) The channel allocation program according to claim 11, causing the computer to further execute the step of

notifying another wireless apparatus requesting connection to the wireless apparatus about rejection of channel allocation, when allocation of a wireless channel is rejected.

15. (Original) The channel allocation program according to claim 11, wherein said parameter is based on a reception signal level from another wireless apparatus requesting connection to the wireless apparatus.

16. (New) The wireless apparatus according to claim 1, wherein the wireless apparatus initially establishes the wireless connection with the another wireless apparatus using the first modulation method,

wherein said parameter measuring unit periodically measures said parameter indicative of the communication environment of the transmission path, and

wherein, when the parameter indicative of the communication environment of the transmission path is greater than the first threshold value, the wireless connection between the wireless apparatus and the another wireless apparatus is switched from the first modulation method to the second modulation method.

17. (New) The wireless apparatus according to claim 1, wherein said parameter measuring unit measures said parameter indicative of the communication environment of the transmission path based only on a synchronization burst signal received by said wireless apparatus that is output by said another wireless apparatus.

18. (New) The channel allocation method according to claim 6, further comprising:

initially establishing the wireless connection with the another wireless apparatus using the first modulation method,

periodically measuring, by said parameter measuring unit, said parameter indicative of the communication environment of the transmission path, and

switching, when the parameter indicative of the communication environment of the transmission path is greater than the first threshold value, the wireless connection between the wireless apparatus and the another wireless apparatus from the first modulation method to the second modulation method.

19. (New) The channel allocation method according to claim 6, wherein said parameter measuring unit measures said parameter indicative of the communication environment of the transmission path based only on a synchronization burst signal received by said wireless apparatus that is output by said another wireless apparatus.

20. (New) The said channel allocation program according to claim 11, further causing a computer to execute the steps of:

initially establishing the wireless connection with the another wireless apparatus using the first modulation method,

periodically measuring, by said parameter measuring unit, said parameter indicative of the communication environment of the transmission path, and

switching, when the parameter indicative of the communication environment of the transmission path is greater than the first threshold value, the wireless connection between the

wireless apparatus and the another wireless apparatus from the first modulation method to the second modulation method.